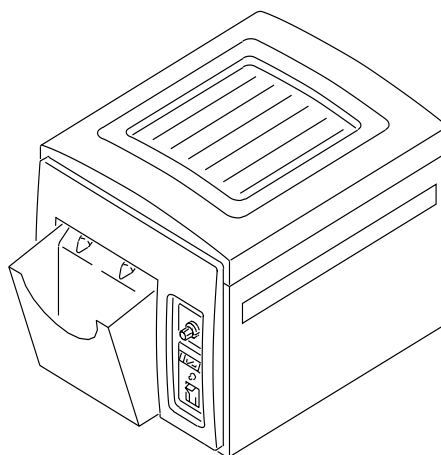


# DIAGRAMS for the *Kodak X-Omat 2000/2000A* PROCESSORS Service Codes: 3554, 3555



## Important

Qualified service personnel must repair this equipment.



H172\_0500AC



HEALTH IMAGING

Confidential  
Restricted Information

© Eastman Kodak Company, 2002

**PLEASE NOTE**

The information contained herein is based on the experience and knowledge relating to the subject matter gained by Eastman Kodak Company prior to publication.

No patent license is granted by this information.

Eastman Kodak Company reserves the right to change this information without notice, and makes no warranty, express or implied, with respect to this information. Kodak shall not be liable for any loss or damage, including consequential or special damages, resulting from any use of this information, even if loss or damage is caused by Kodak's negligence or other fault.



This equipment includes parts and assemblies sensitive to damage from electrostatic discharge. Use caution to prevent damage during all service procedures.

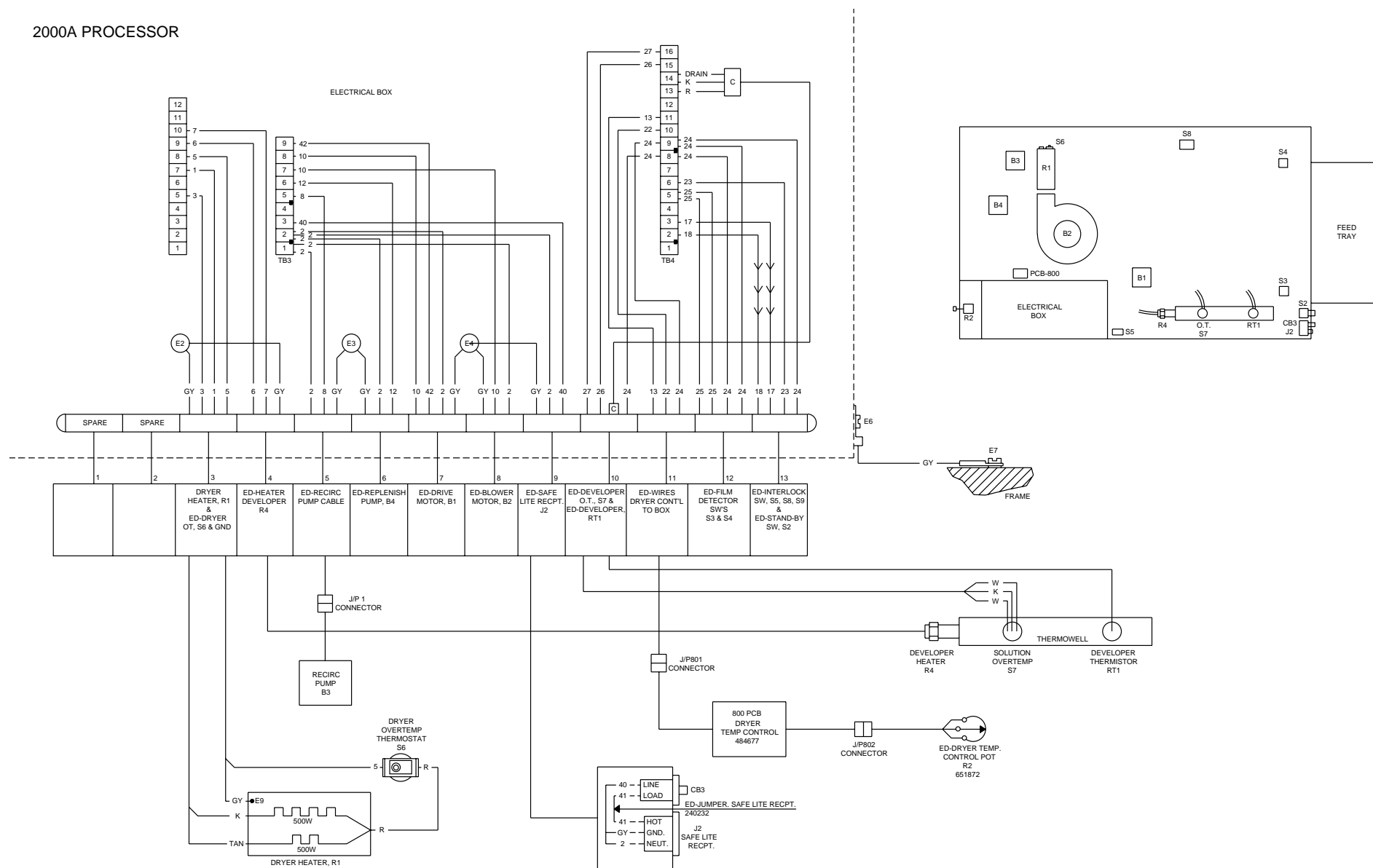
## Table of Contents

Description	Page
<a href="#">Electrical</a> .....	4
<a href="#">2000 PROCESSOR</a> .....	4
<a href="#">2000A PROCESSOR</a> .....	5
<a href="#">CONTROL BOX - 2000 PROCESSOR, Serial No. 202847 and Below</a> .....	6
<a href="#">CONTROL BOX - 2000 PROCESSOR, Serial No. 202848 and Above</a> .....	7
<a href="#">CONTROL BOX - 2000A PROCESSOR, Serial No. 215799 and Below</a> .....	8
<a href="#">CONTROL BOX - 2000A PROCESSOR, Serial No. 215800 and Above</a> .....	9
<a href="#">Schematic</a> .....	10
<a href="#">2000 PROCESSOR - Serial No. 202847 and Below</a> .....	10
<a href="#">2000 PROCESSOR - Serial No. 202848 and Above</a> .....	11
<a href="#">2000A PROCESSOR - Serial No. 215799 and Below</a> .....	12
<a href="#">2000A PROCESSOR - Serial No. 215800 and Above</a> .....	13
<a href="#">Developer Temperature Control System - 2000/2000A PROCESSORS</a> .....	14
<a href="#">Replenishment Control System - 2000/2000A PROCESSORS</a> .....	15
<a href="#">DRYER HEATER, Temperature Control System, and MAIN DRIVE MOTOR -         2000/2000A PROCESSORS</a> .....	16
<a href="#">100 BOARD - 2000/2000A PROCESSORS</a> .....	17
<a href="#">Block</a> .....	19
<a href="#">Dryer Temperature Control System and MAIN DRIVE - 2000A PROCESSOR</a> .....	19
<a href="#">Functional</a> .....	21
<a href="#">2000/2000A PROCESSORS</a> .....	21
<a href="#">Film Feeding - 2000/2000A PROCESSORS</a> .....	22
<a href="#">Developer Temperature Control System - 2000/2000A PROCESSORS</a> .....	23
<a href="#">Temperature Control System for the DRYER and MAIN DRIVE MOTOR -         2000/2000A PROCESSORS</a> .....	24

<a href="#"><u>Diagnostics</u></a> .....	25
<a href="#"><u>2000/2000A PROCESSORS</u></a> .....	25
<a href="#"><u>Replenishment Control System - 2000/2000A PROCESSORS</u></a> .....	26
<a href="#"><u>No Heat in the DRYER - 2000 PROCESSOR</u></a> .....	27
<a href="#"><u>No Heat in the DRYER - 2000A PROCESSOR</u></a> .....	28
<a href="#"><u>Malfunction of the BLOWER MOTOR or DRIVE MOTOR -</u></a> <a href="#"><u>2000/2000A PROCESSORS</u></a> .....	29
<a href="#"><u>Malfunction of the BLOWER MOTOR - 2000/2000A PROCESSORS</u></a> .....	30
<a href="#"><u>Malfunction of the Developer Temperature Control System and the</u></a> <a href="#"><u>TEMPERATURE READY LIGHT - 2000/2000A PROCESSORS</u></a> .....	31

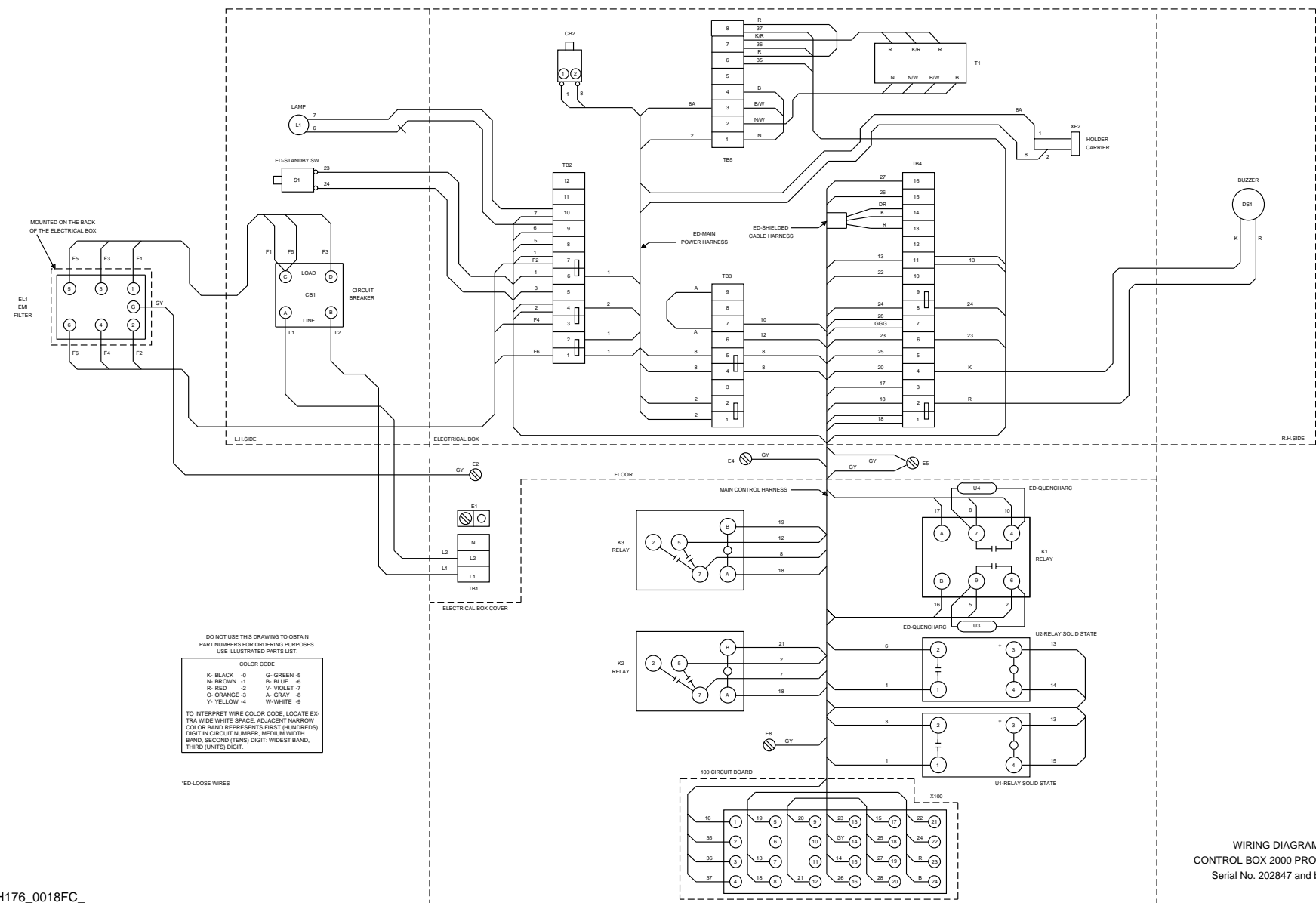


## 2000A PROCESSOR



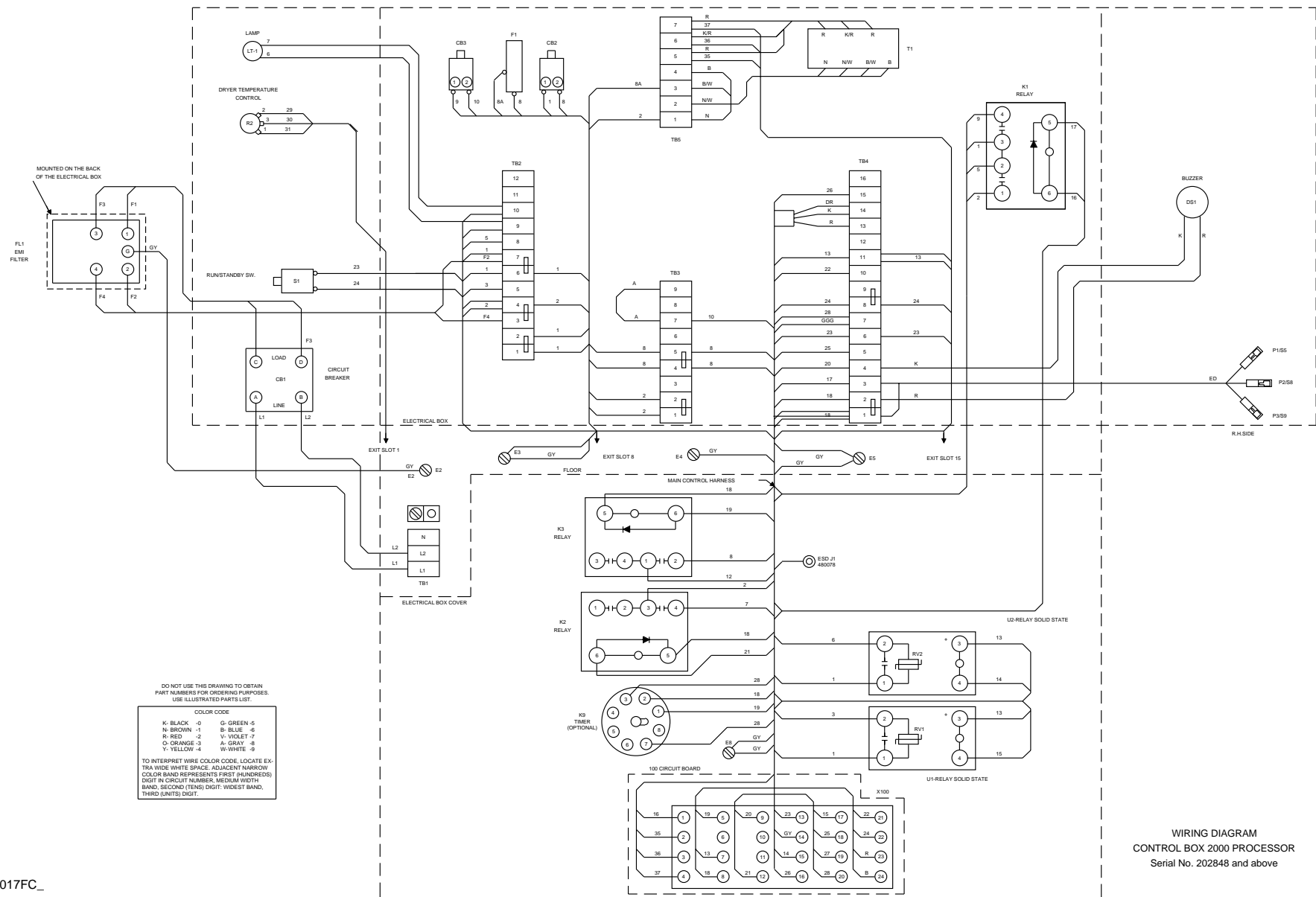
H172\_0009FC\_

CONTROL BOX - 2000 PROCESSOR, Serial No. 202847 and Below



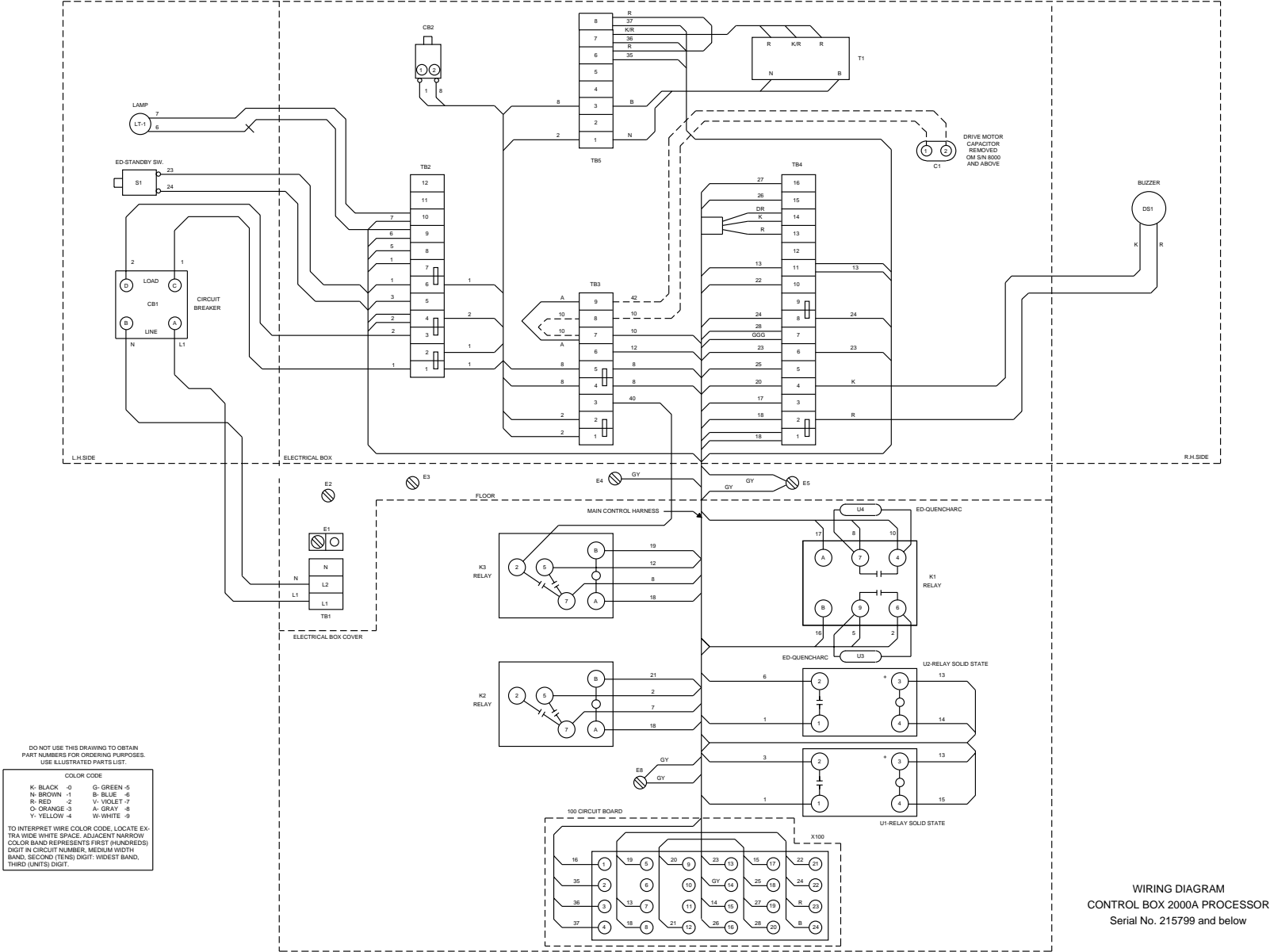
H176\_0018FC\_

# CONTROL BOX - 2000 PROCESSOR, Serial No. 202848 and Above



H176\_0017FC\_

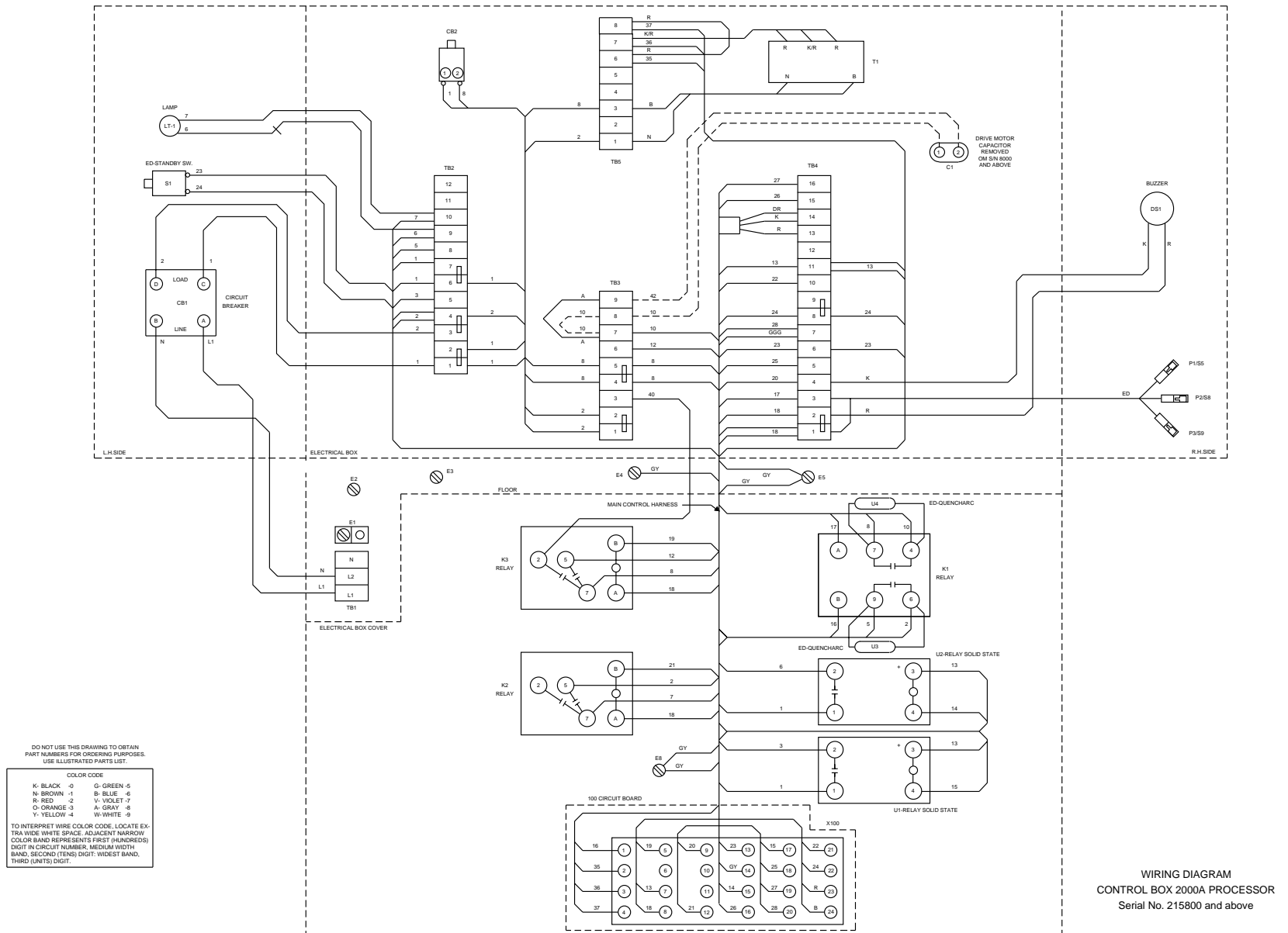
CONTROL BOX - 2000A PROCESSOR, Serial No. 215799 and Below



H176\_0016FC\_



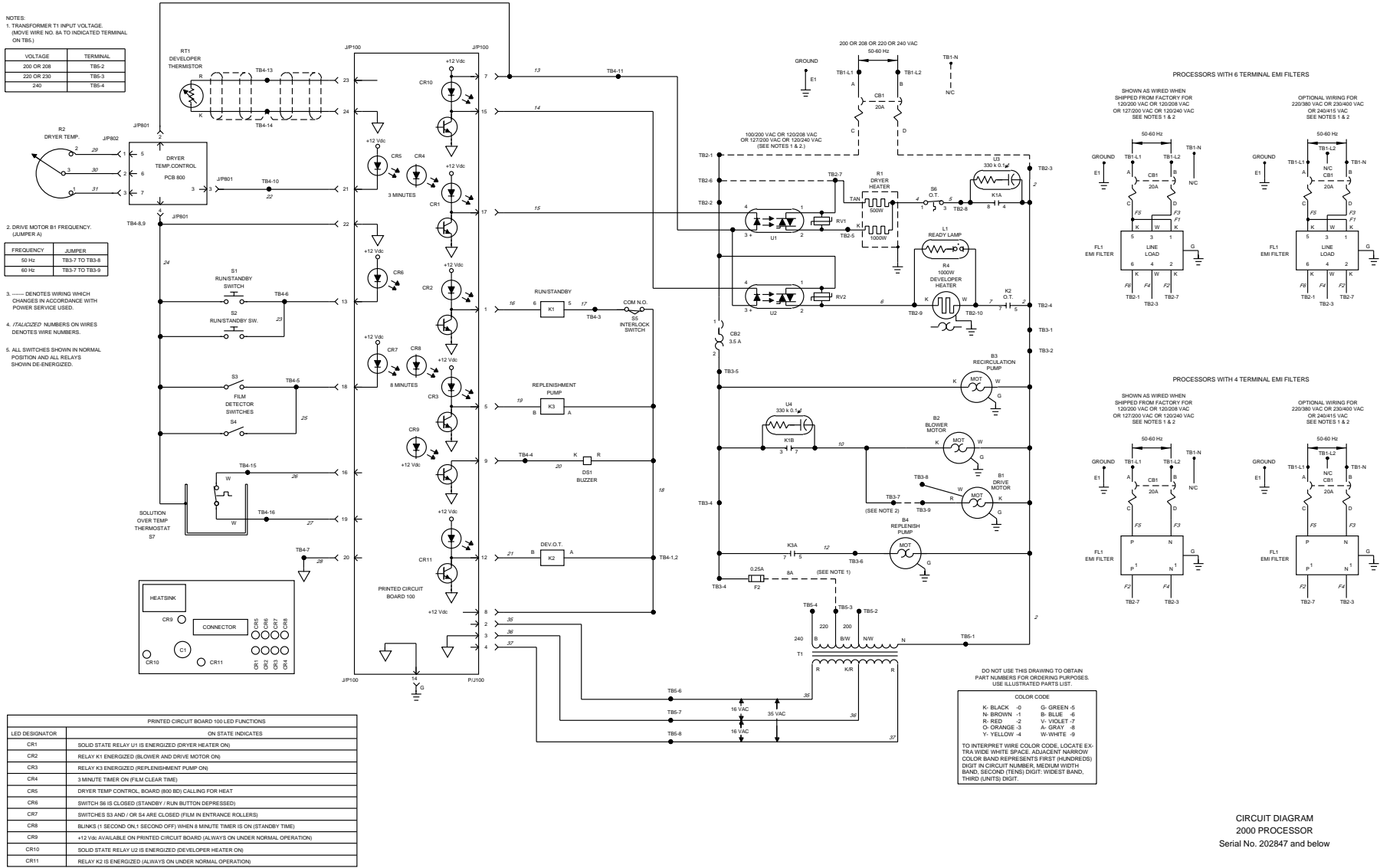
# CONTROL BOX - 2000A PROCESSOR, Serial No. 215800 and Above



H176\_0015FC\_

Section 2: Schematic

2000 PROCESSOR - Serial No. 202847 and Below



H176\_0011FC\_

# 2000 PROCESSOR - Serial No. 202848 and Above

NOTES:  
1. TRANSFORMER T1 INPUT VOLTAGE SELECTION.  
MOVE WIRE NO. 8A TO INDICATED POSITION  
TERMINAL BLOCK.

VOLTAGE	TERMINAL
230 OR 208	TB5-2
220 OR 230	TB5-3
240	TB5-4

2. DRIVE MOTOR B1 LINE FREQUENCY SELECTION.  
(JUMPER A)

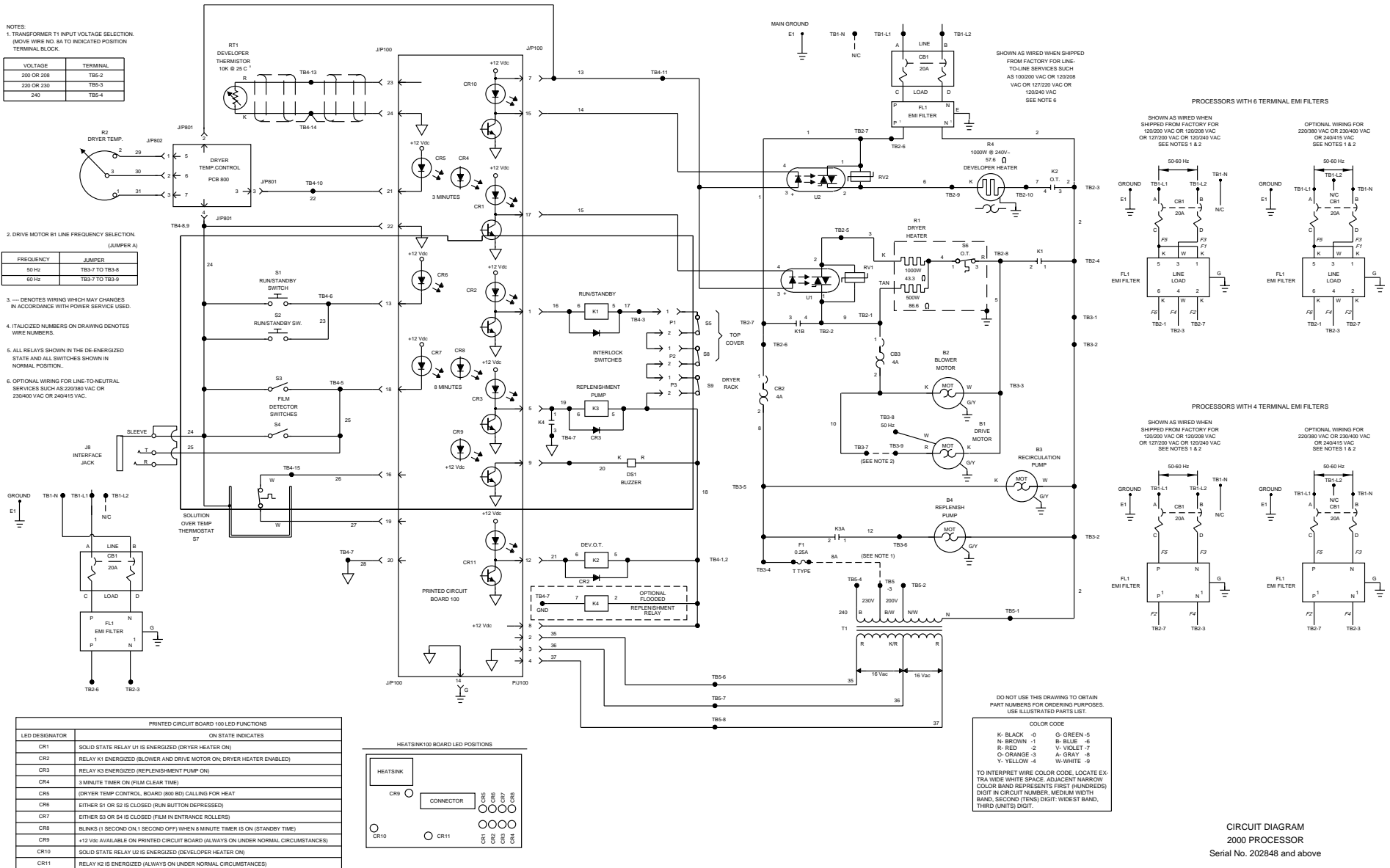
FREQUENCY	JUMPER
50 Hz	TB3-7 TO TB3-6
60 Hz	TB3-7 TO TB3-5

3. — DENOTES WIRING WHICH MAY CHANGES  
IN ACCORDANCE WITH POWER SERVICE USED.

4. ITALICIZED NUMBERS ON DRAWING DENOTES  
WIRE NUMBERS.

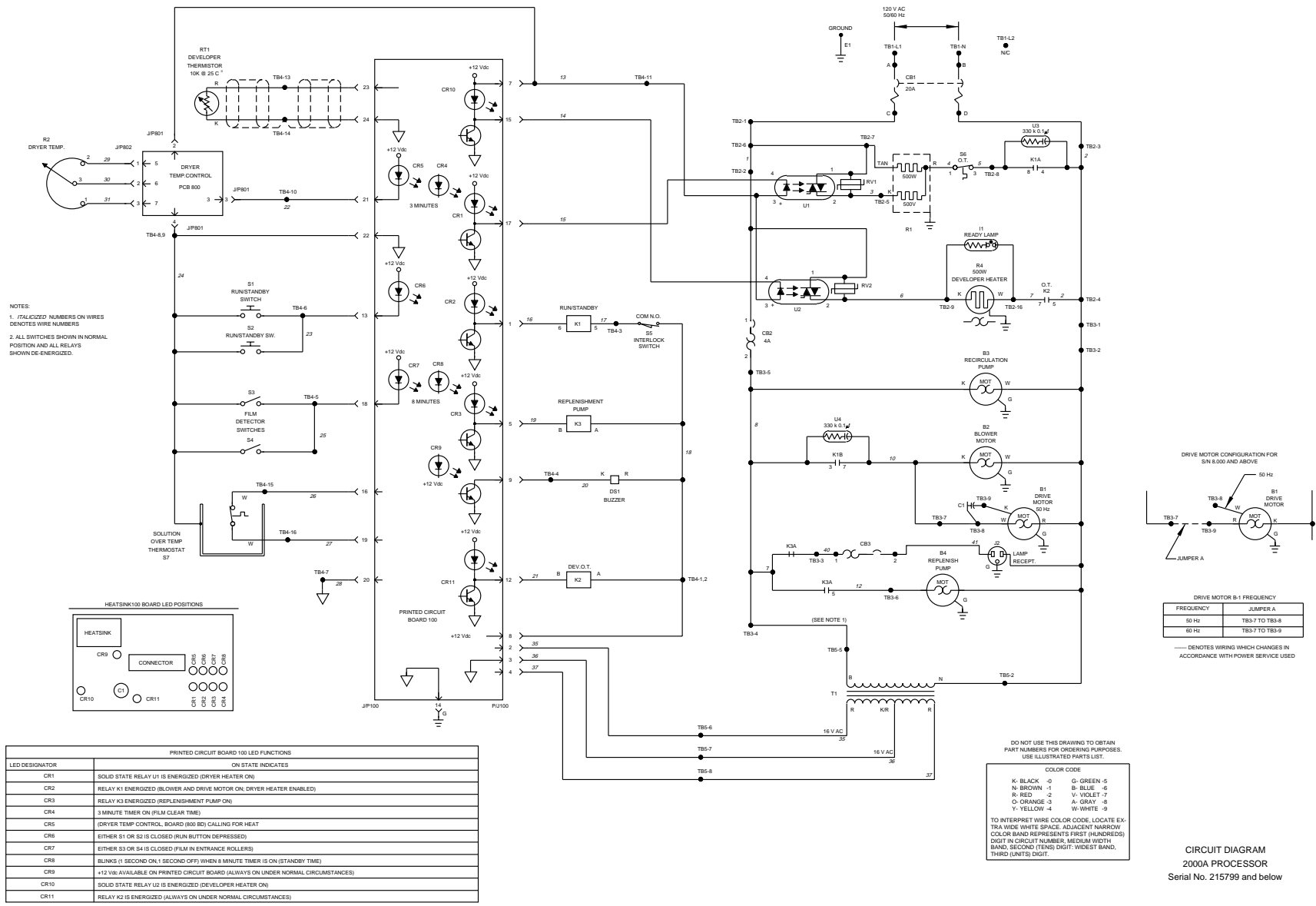
5. ALL RELAYS SHOWN IN THE DE-ENERGIZED  
STATE AND ALL SWITCHES SHOWN IN  
NORMAL POSITION.

6. OPTIONAL WIRING FOR LINE-TO-NEUTRAL  
SERVICES SUCH AS 220/380 VAC OR  
230/400 VAC OR 240/415 VAC.

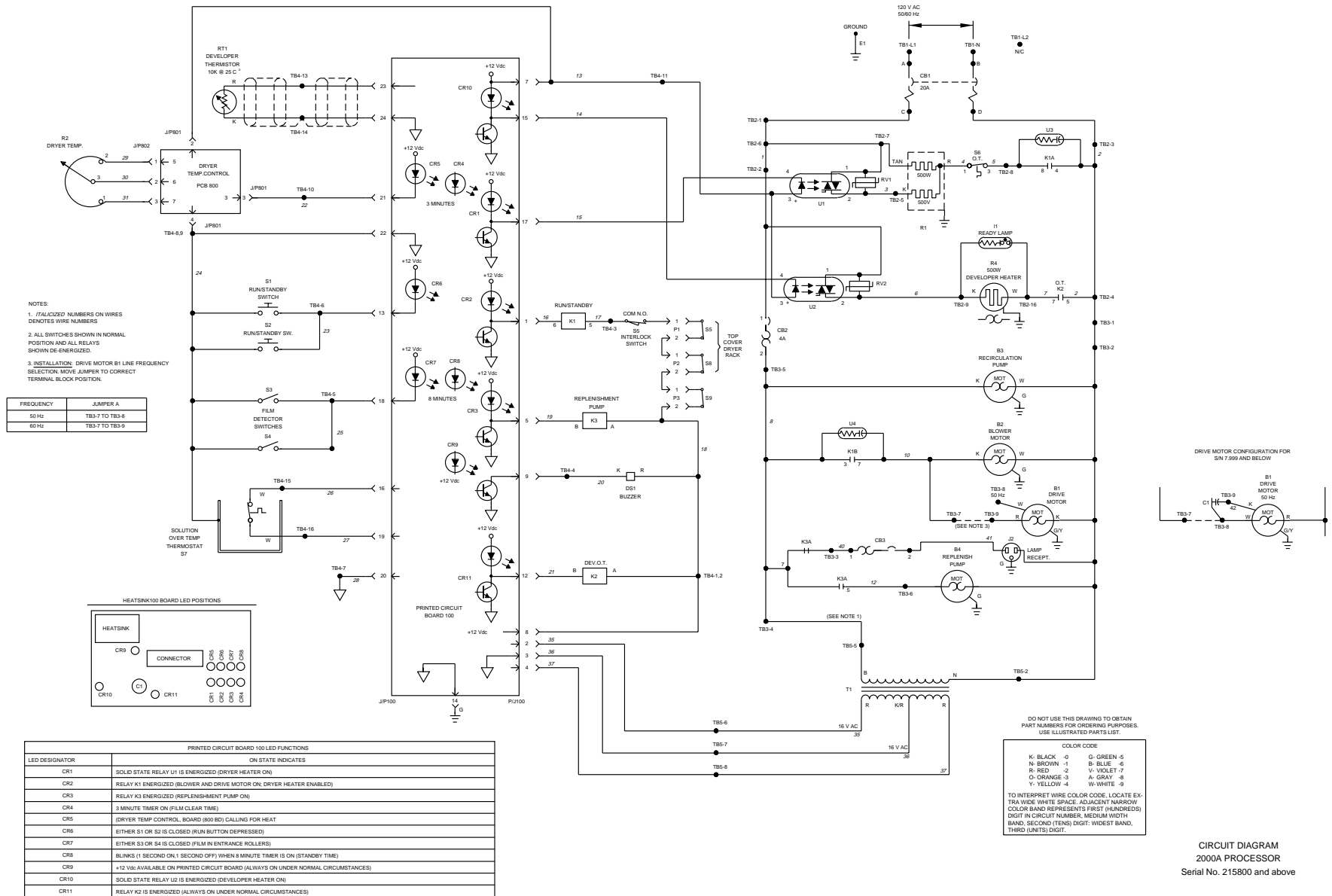


CIRCUIT DIAGRAM  
2000 PROCESSOR  
Serial No. 202848 and above

2000A PROCESSOR - Serial No. 215799 and Below



# 2000A PROCESSOR - Serial No. 215800 and Above



H176\_0013FC\_

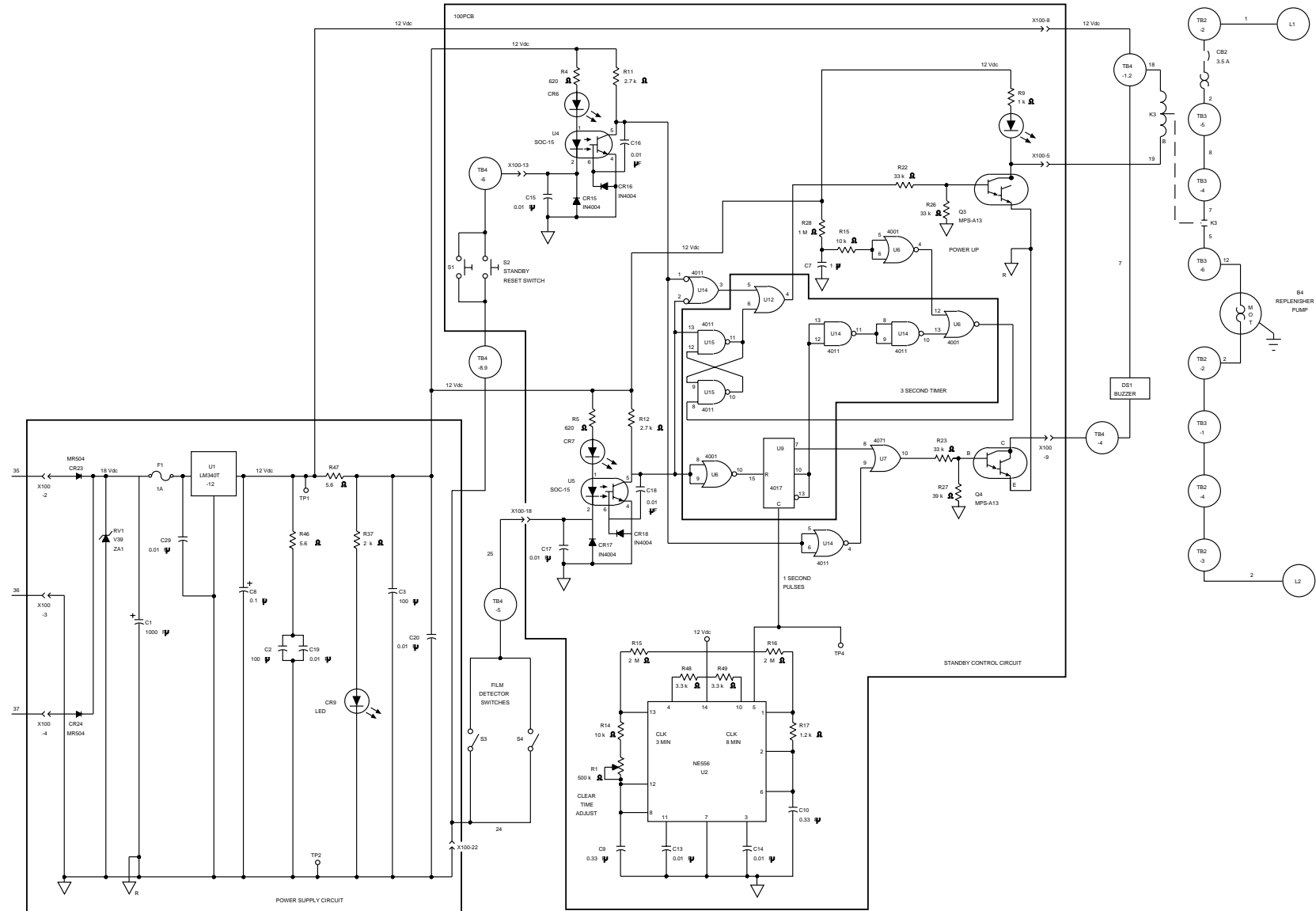
The schematic diagram illustrates the internal circuitry of the PCB 100, divided into three main functional sections:

- POWER SUPPLY CIRCUIT:** This section manages the input power. It features two AC input lines (Vac) connected through fuses F1 and F2 to bridge rectifiers CR23 and CR24 (MR504). The resulting DC voltages (16 Vdc and 12 Vdc) are filtered by capacitors C1 (1000 μF) and C2 (100 μF). A voltage doubler circuit (U1: LM3401) is used to generate a 12 Vdc supply for the O.T. THERMO-STAT. Other components include resistors R45, R47, R37, and R3, and a Zener diode RV1 (50 V).
- DEVELOPER TEMPERATURE CONTROL CIRCUIT:** This circuit monitors and controls the temperature of the developer. It includes an RT-1 DEVELOPER THERMISTOR (X100-23) and an O.T. THERMO-STAT (X100-19). The circuit uses an operational amplifier U13 (LM393N) to compare the thermistor's resistance with a reference. The output drives a transistor Q5 (MPS-A13) which controls a relay U6 (DEVELOPER SOLID STATE RELAY). LEDs CR10 and CR19 (IN4004) provide visual feedback. Various resistors (R29, R30, R32, R34, R31, R2) and capacitors (C4, C5, C6) are used for signal conditioning and timing.
- Other Components:** The diagram also shows a READY LAMP (I1) controlled by a relay (U2), a DEVELOPER HEATER (R4, R4000W 2000, R4 500W 2000A), and a DEVELOPER SOLID STATE RELAY (U6). Test points (TP1, TP2, TP7, TP8, TP9, TP10) are distributed throughout the circuit for diagnostic purposes.

The PCB 100 is a complex electronic assembly that integrates power management, temperature sensing, and control logic to ensure optimal development conditions.

# Replenishment Control System - 2000/2000A PROCESSORS

Replenishment Control System for the 2000/2000A PROCESSOR

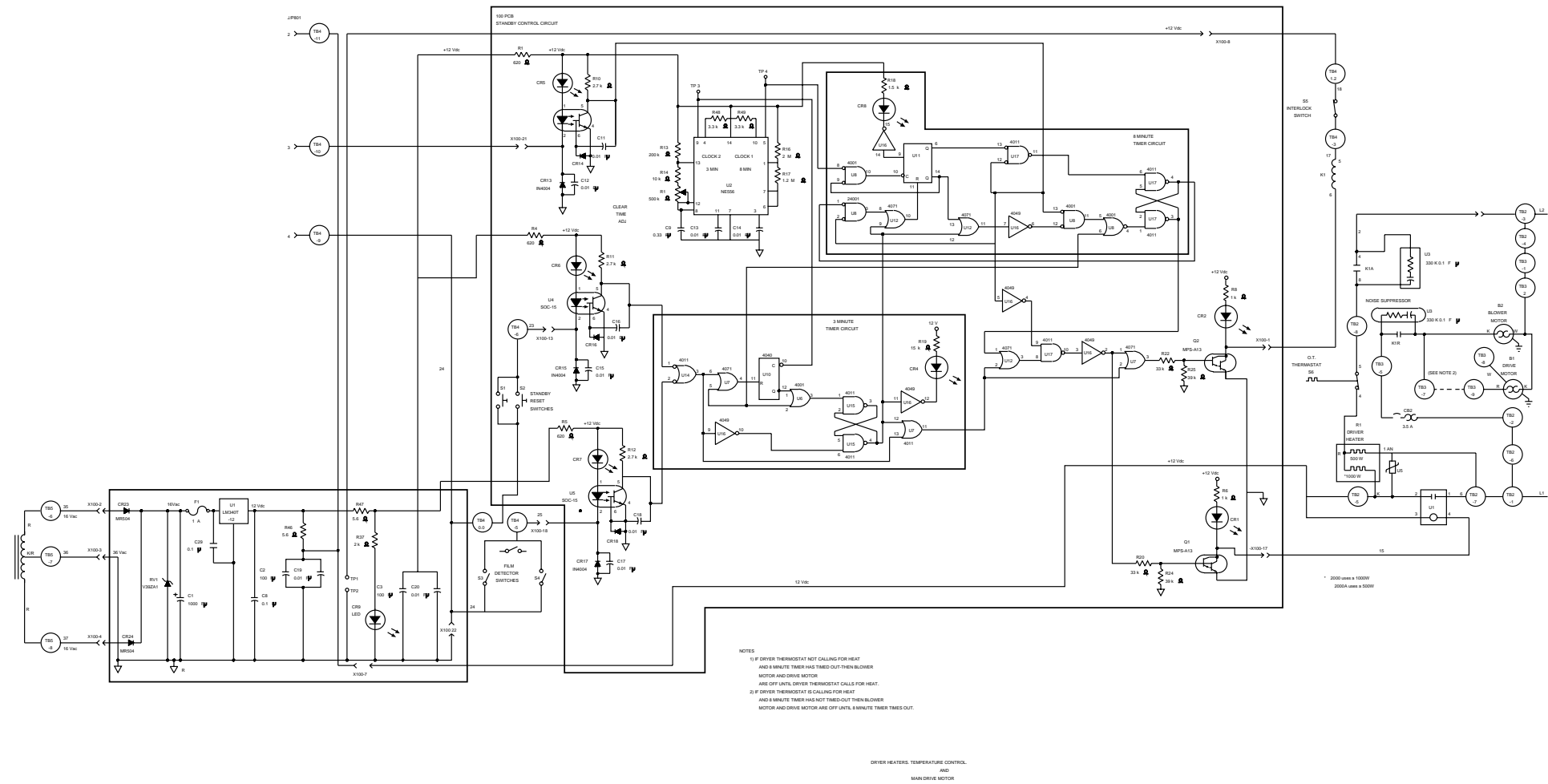


H172\_0016FC\_

# DRYER HEATER, Temperature Control System, and MAIN DRIVE MOTOR - 2000/2000A PROCESSORS

DRYER HEATER, Temperature Control System and MAIN DRIVE MOTOR for the 2000/2000A

PROCESSOR

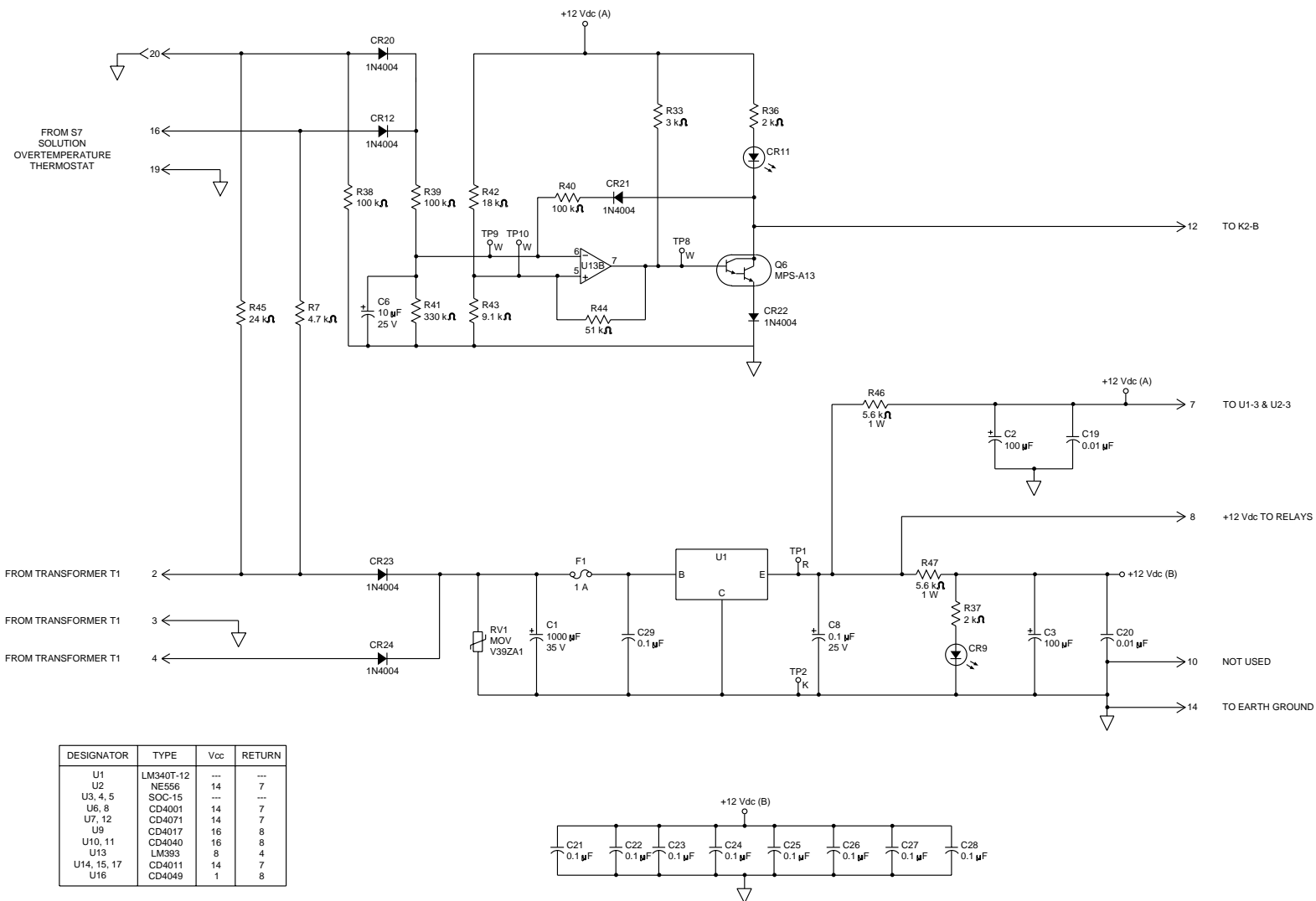


H172\_0015FC\_





## 100 BOARD in the 2000/2000A PROCESSOR, 2 of 2



H172\_0012FC\_

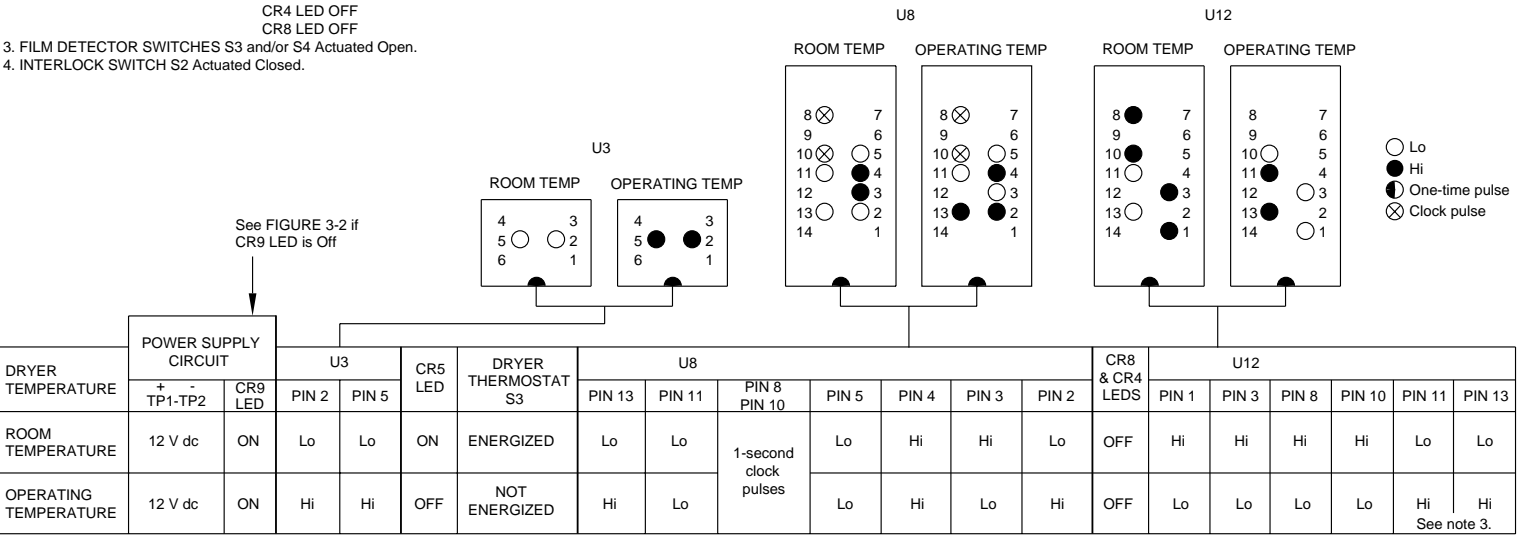
# Section 3: Block

## Dryer Temperature Control System and MAIN DRIVE - 2000A PROCESSOR

Dryer Temperature Control System and MAIN DRIVE for the 2000A PROCESSOR, 1 of 2

FIRST, CHECK:

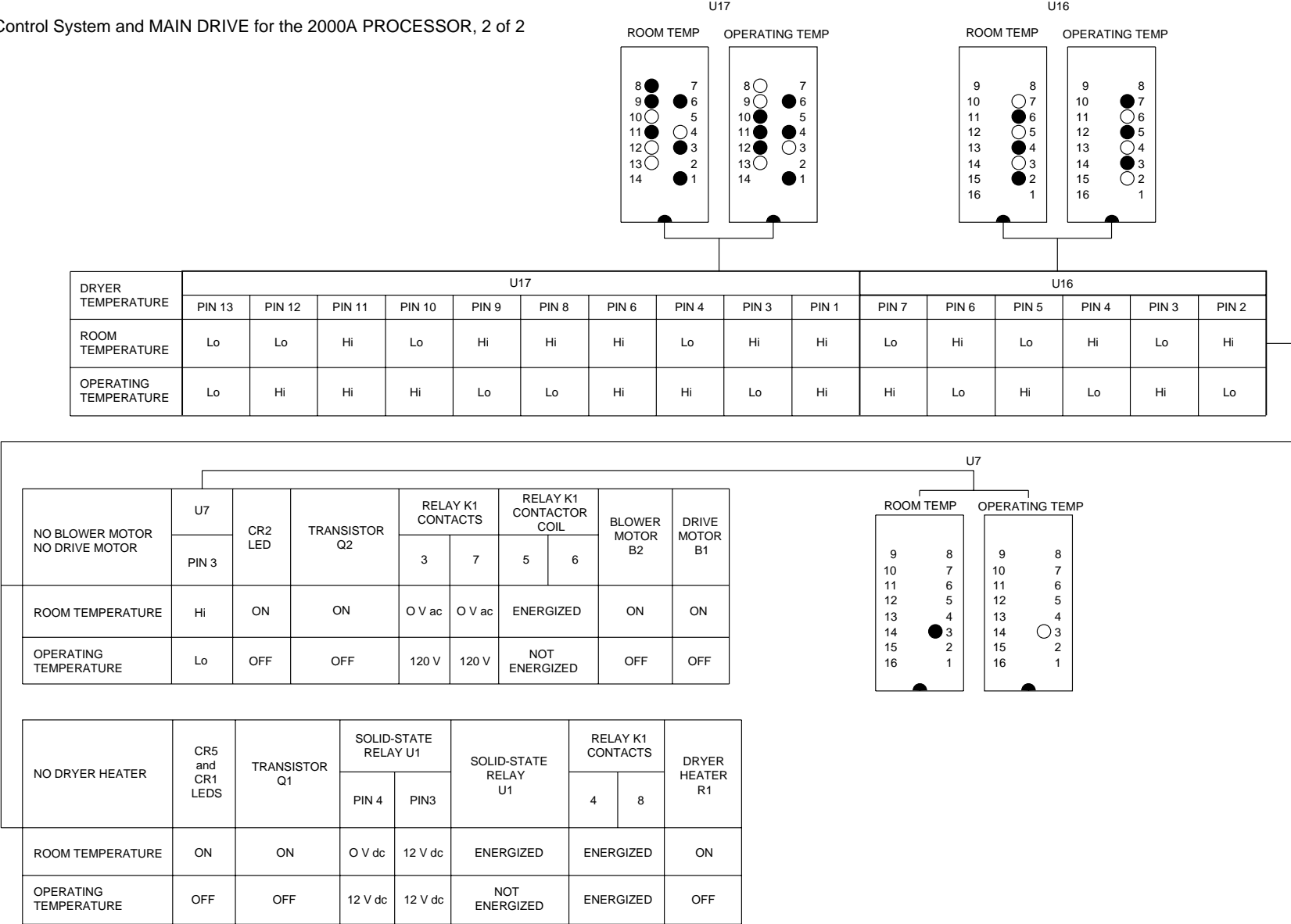
- At "ROOM TEMPERATURE": CR2 LED ON  
CR4 LED OFF  
CR8 LED OFF
- At "OPERATING TEMPERATURE": CR2 LED OFF  
CR4 LED OFF  
CR8 LED OFF
- FILM DETECTOR SWITCHES S3 and/or S4 Actuated Open.
- INTERLOCK SWITCH S2 Actuated Closed.



NOTES:

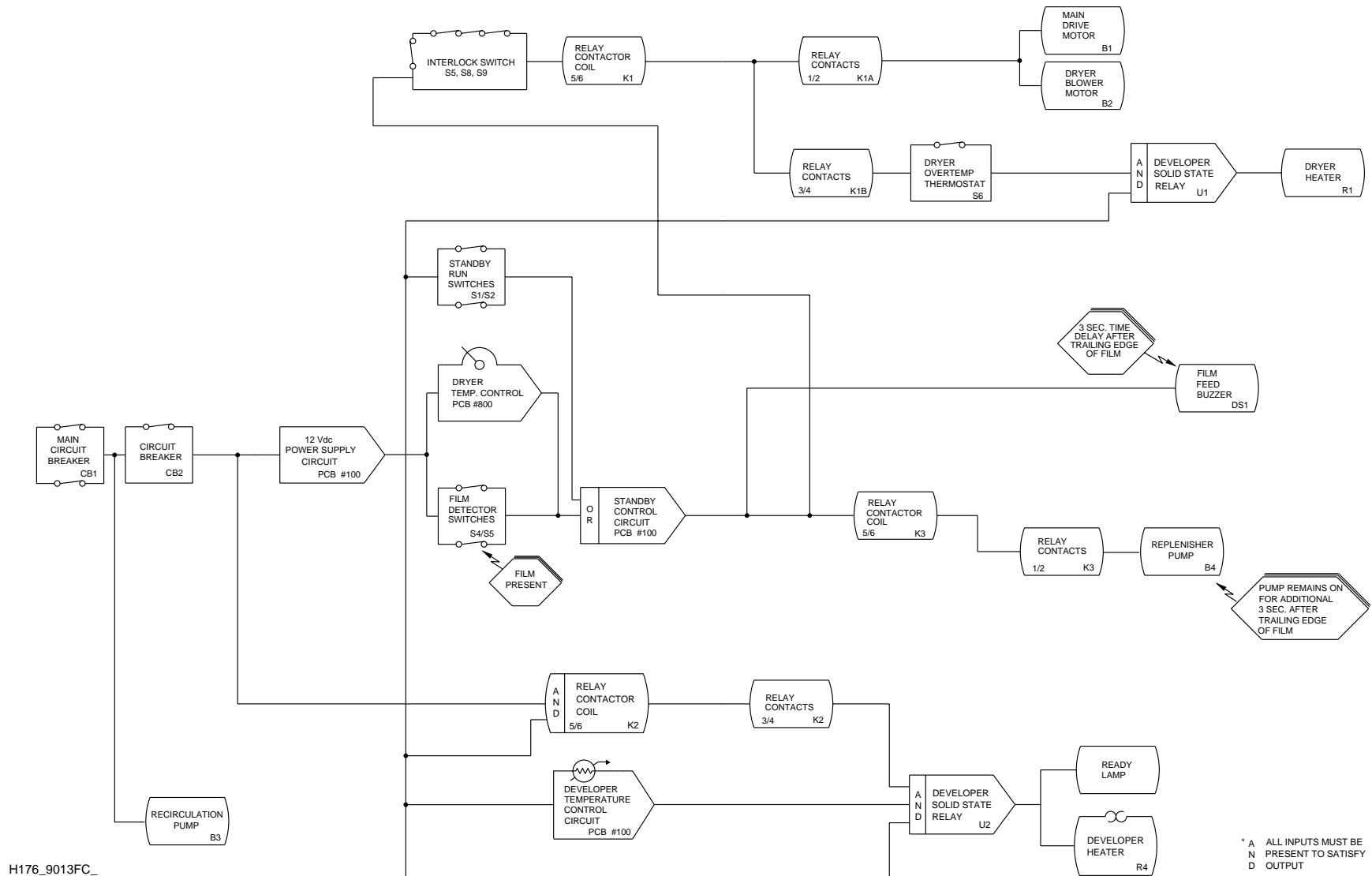
- Voltages measured with respect to TP2 unless otherwise noted.
- Voltages measured by a multimeter with an input impedance of 20,000 ohms per volt dc or more.
- Goes Hi after 8-minute timer times out (CR8 LED is off).
- Lo = Less than 1V dc  
Hi = Greater than 10V dc

Dryer Temperature Control System and MAIN DRIVE for the 2000A PROCESSOR, 2 of 2



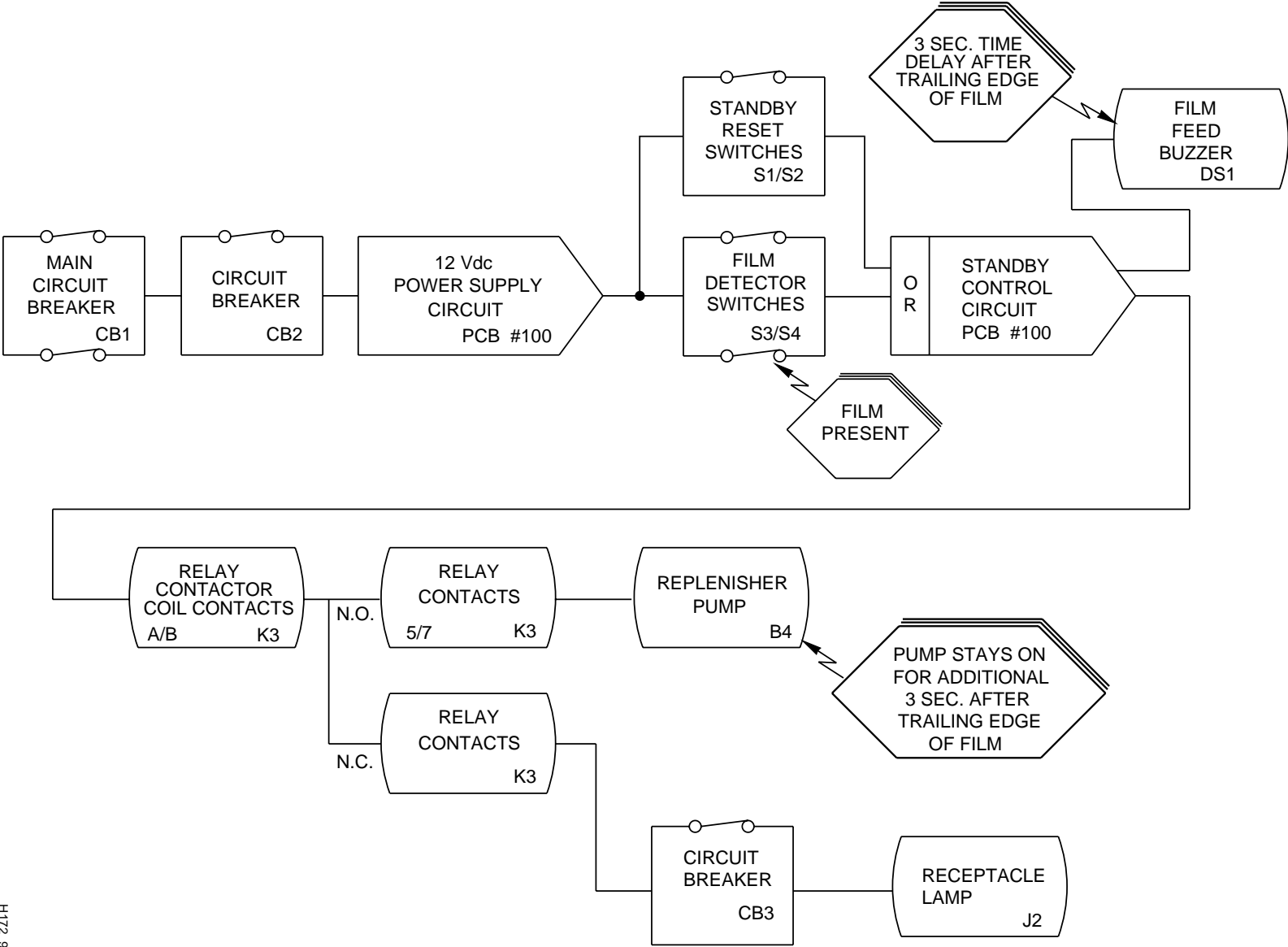
## Section 4: Functional

### 2000/2000A PROCESSORS



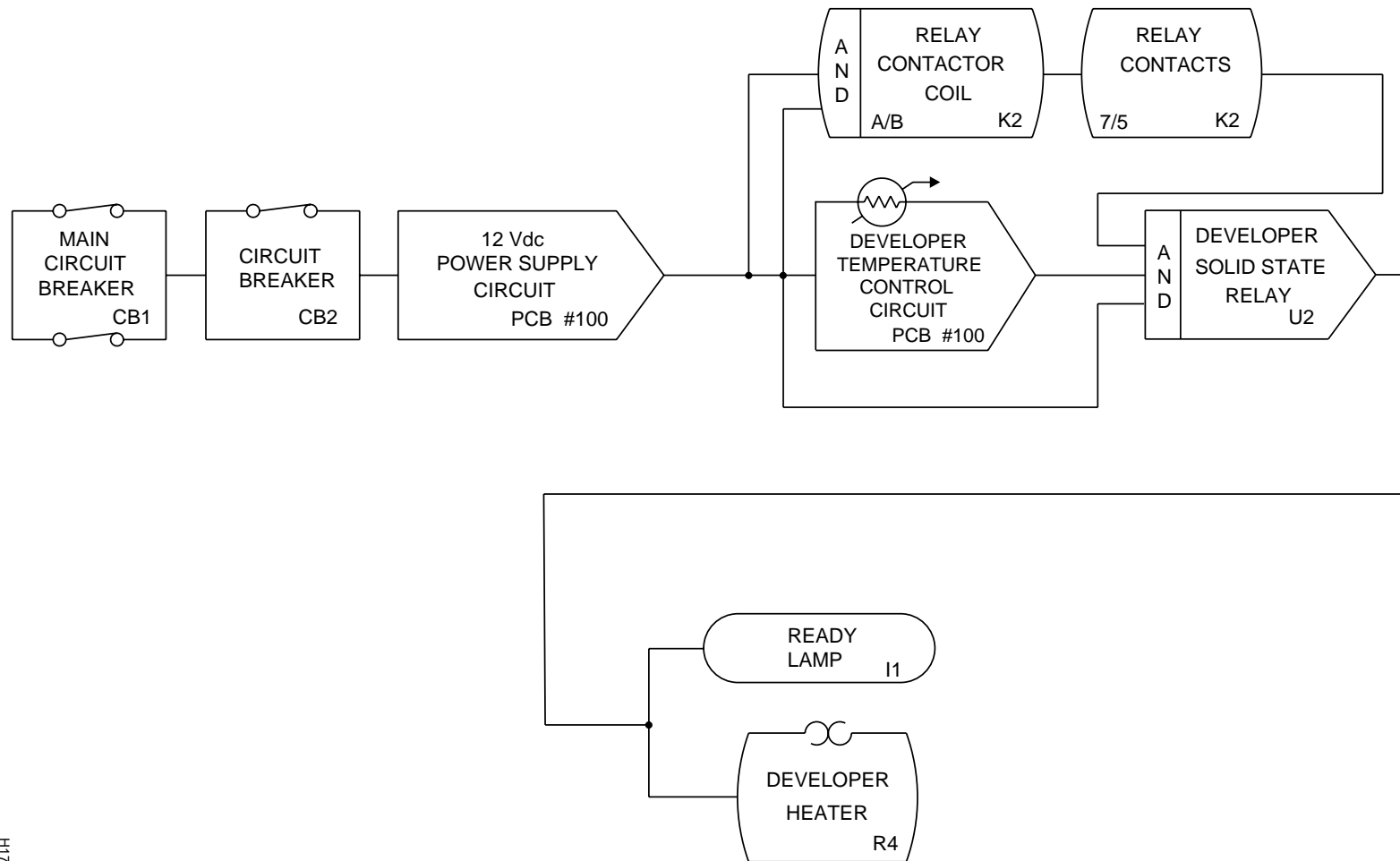
H176\_9013FC\_

Film Feeding - 2000/2000A PROCESSORS



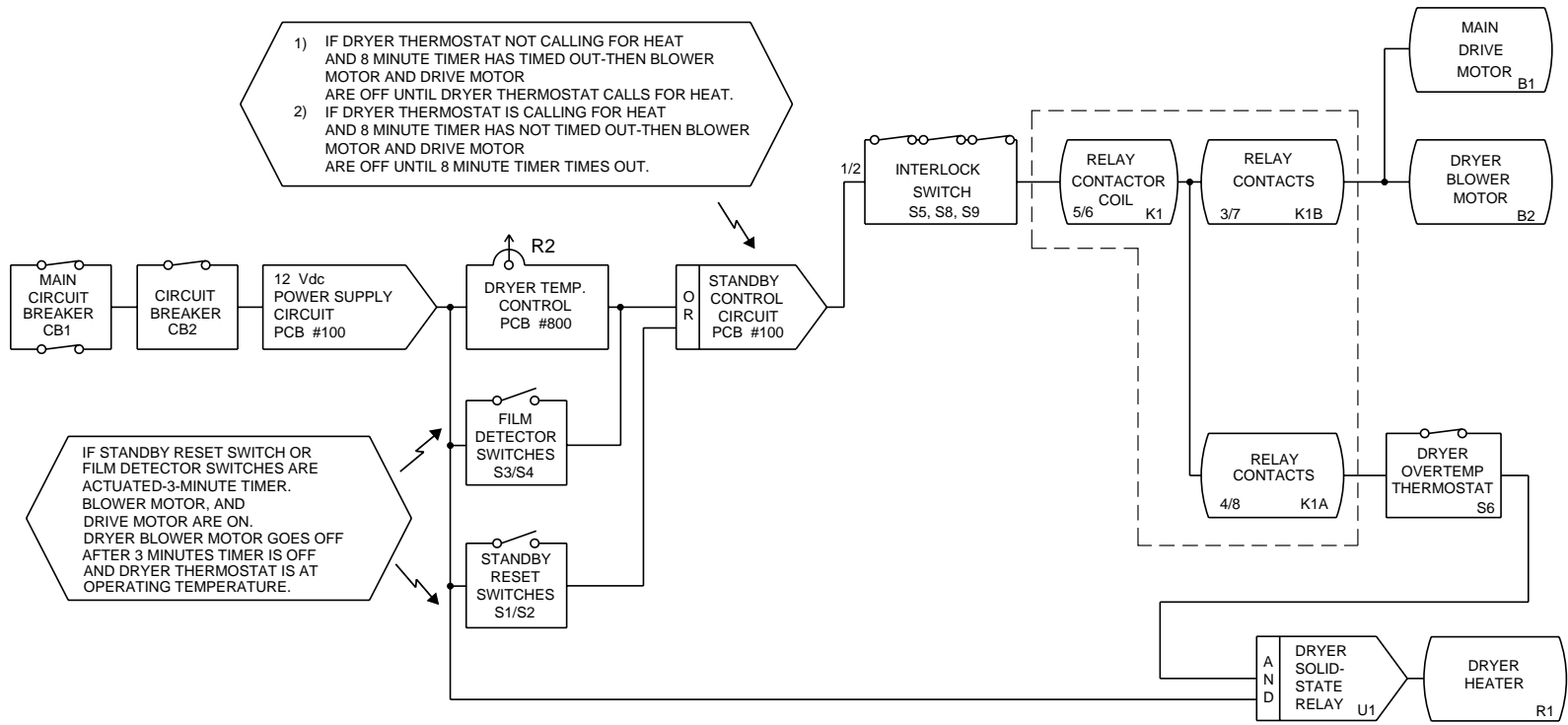
H172\_9001EC

## Developer Temperature Control System - 2000/2000A PROCESSORS



H172\_0005EC\_

Temperature Control System for the DRYER and MAIN DRIVE MOTOR - 2000/2000A PROCESSORS

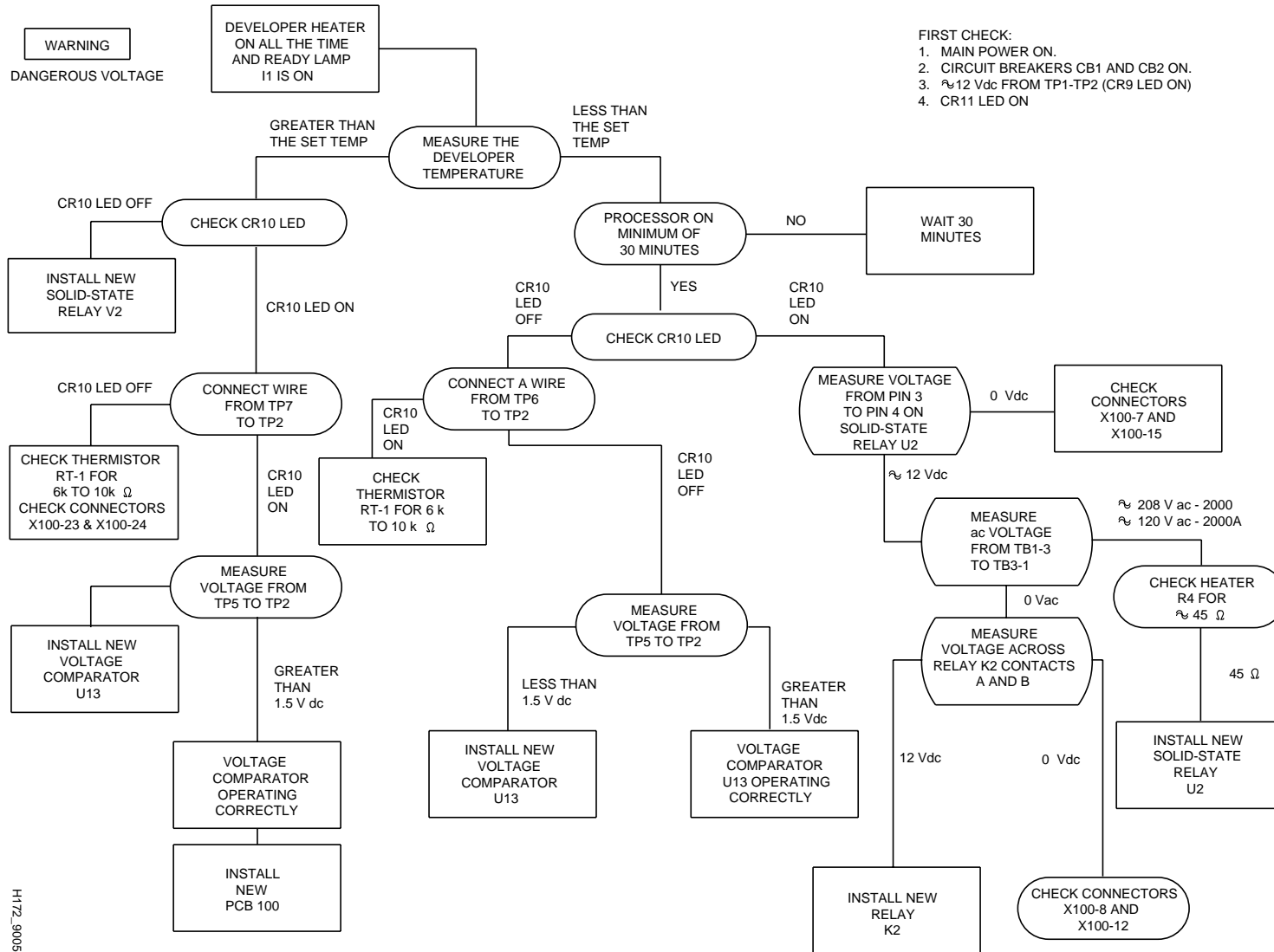


H17Z\_0004EC\_

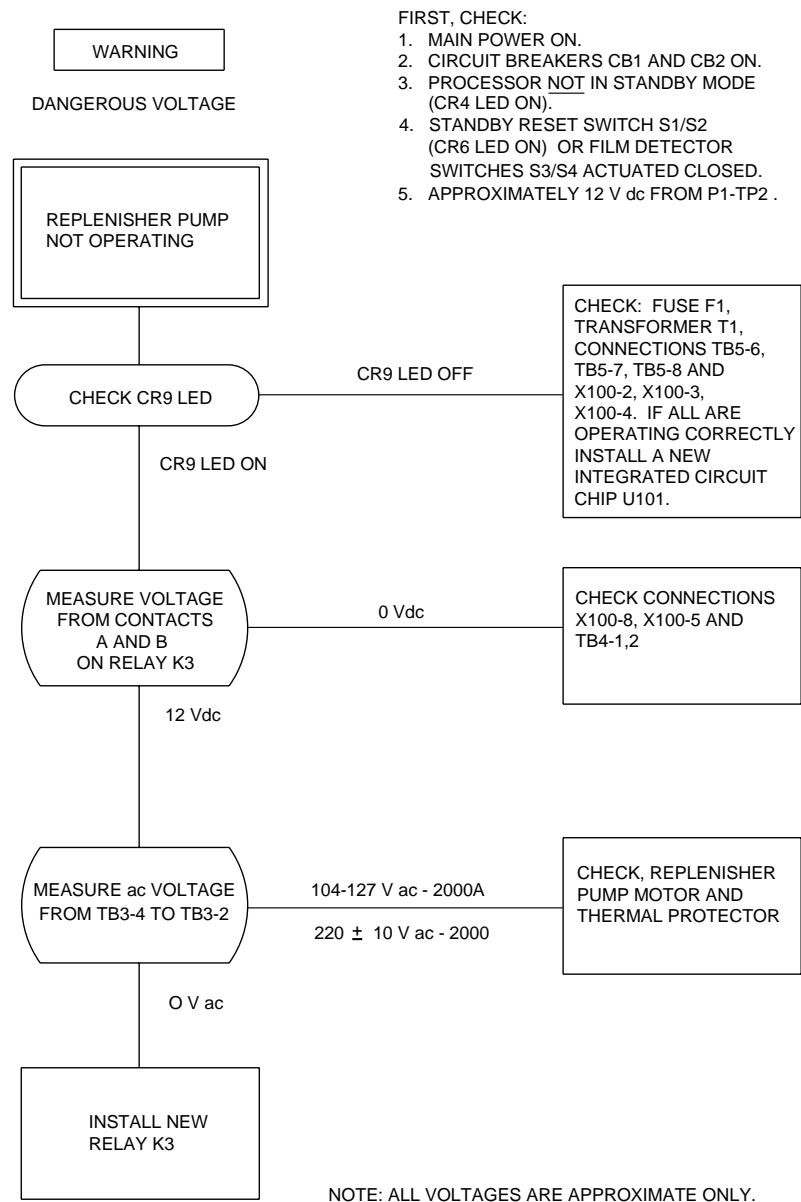


## Section 5: Diagnostics

### 2000/2000A PROCESSORS

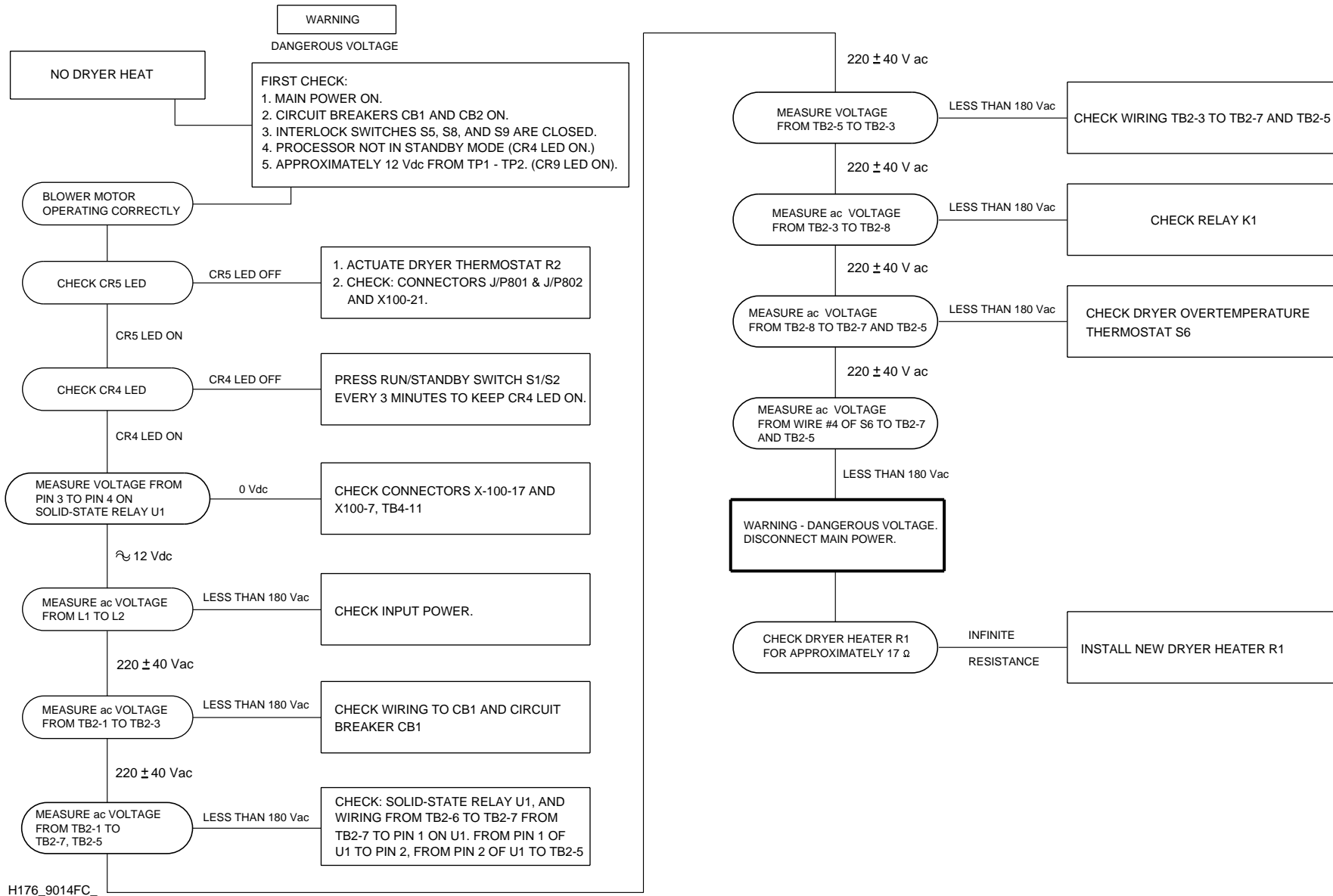


# Replenishment Control System - 2000/2000A PROCESSORS

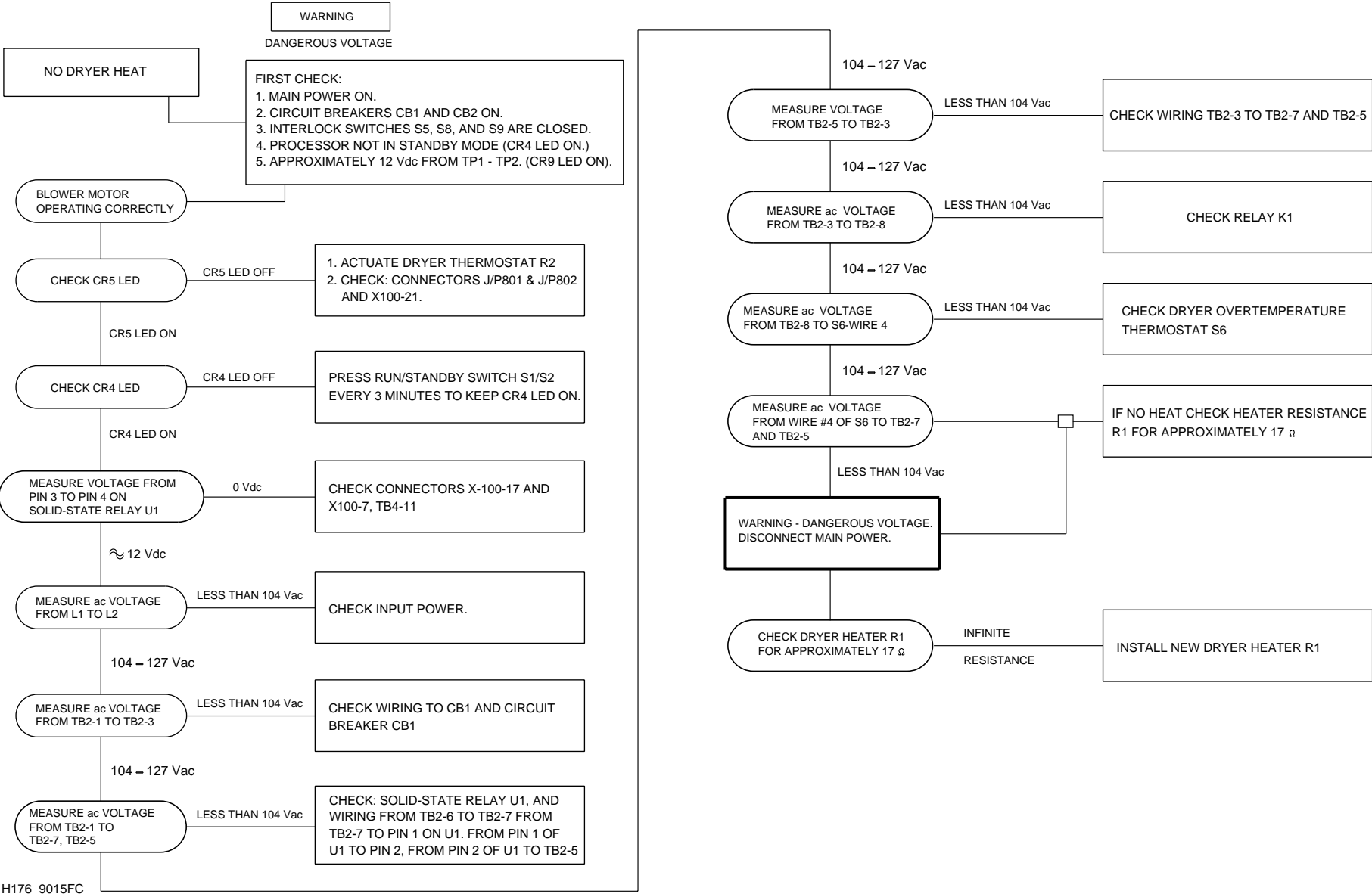


H172\_9002EC

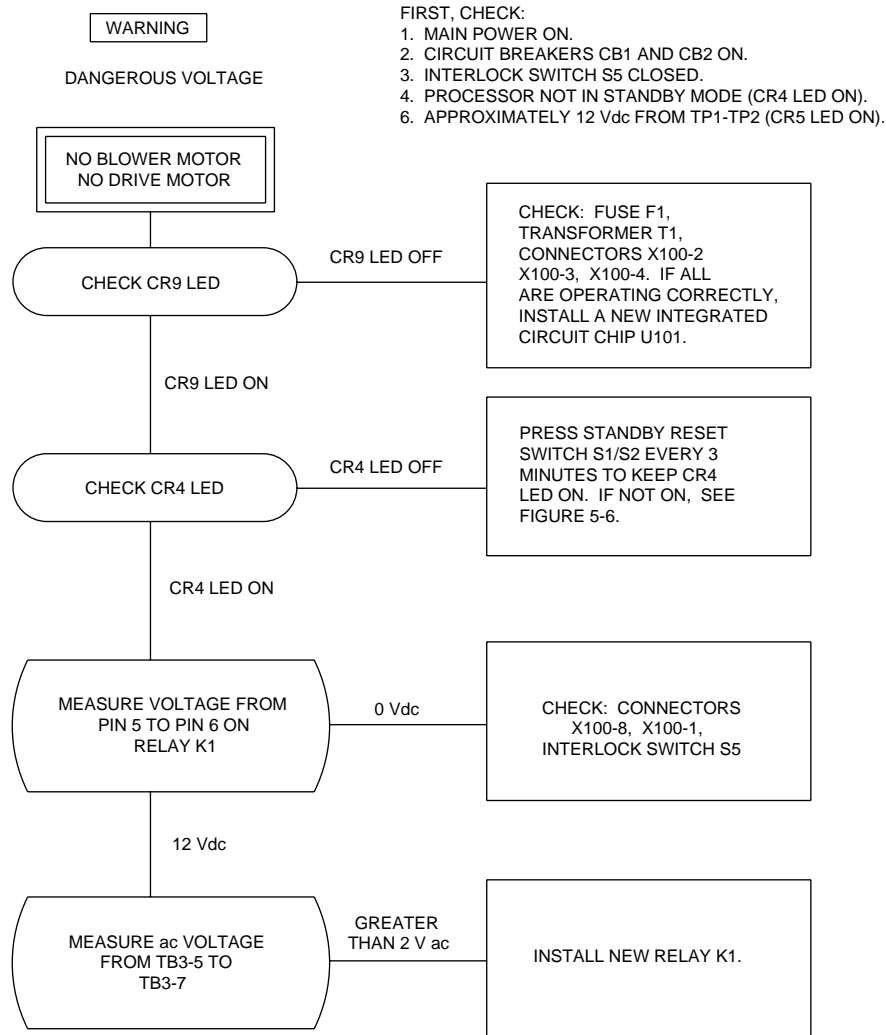
# No Heat in the DRYER - 2000 PROCESSOR



No Heat in the DRYER - 2000A PROCESSOR



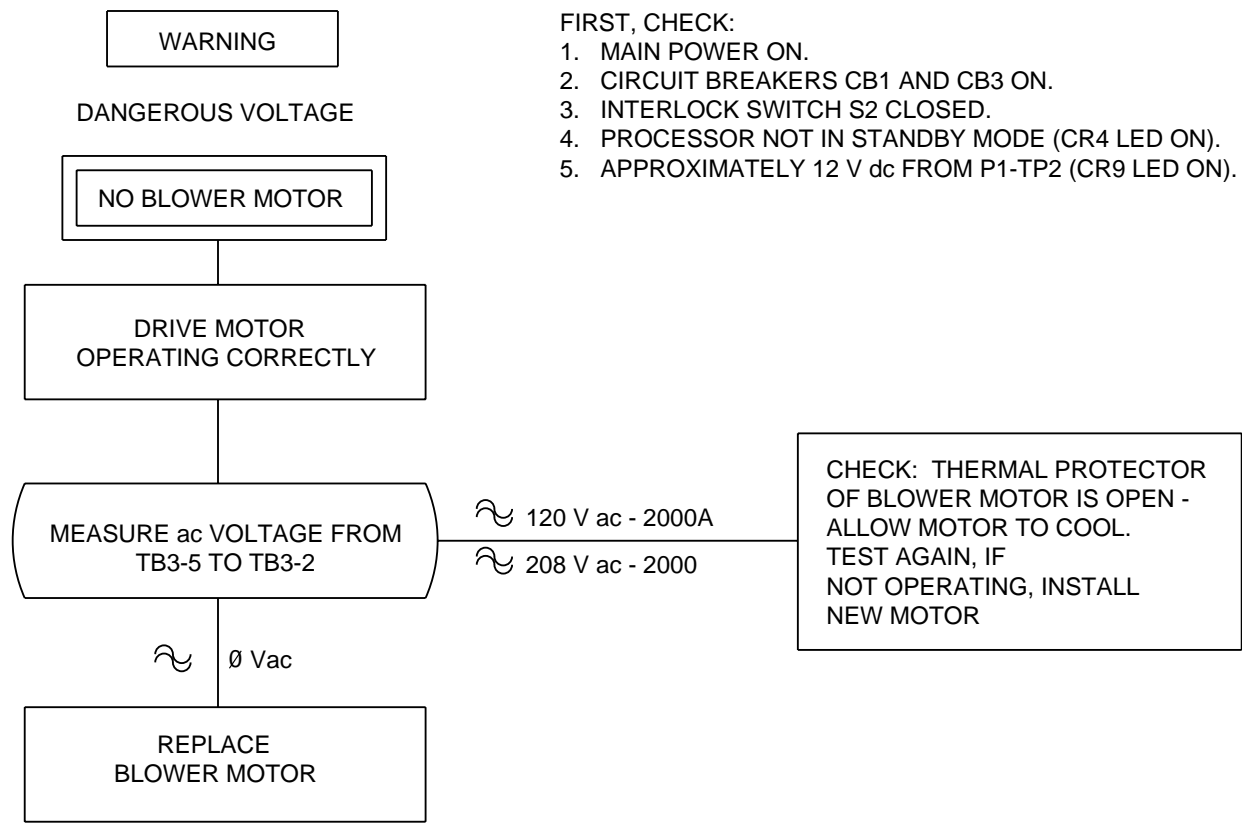
# Malfunction of the BLOWER MOTOR or DRIVE MOTOR - 2000/2000A PROCESSORS



NOTE:  
ALL VOLTAGES ARE APPROXIMATE ONLY  
DIAGNOSTIC FLOWCHART FOR THE DRYER TEMPERATURE CONTROL, AND MAIN DRIVE.

H172\_0003EC\_

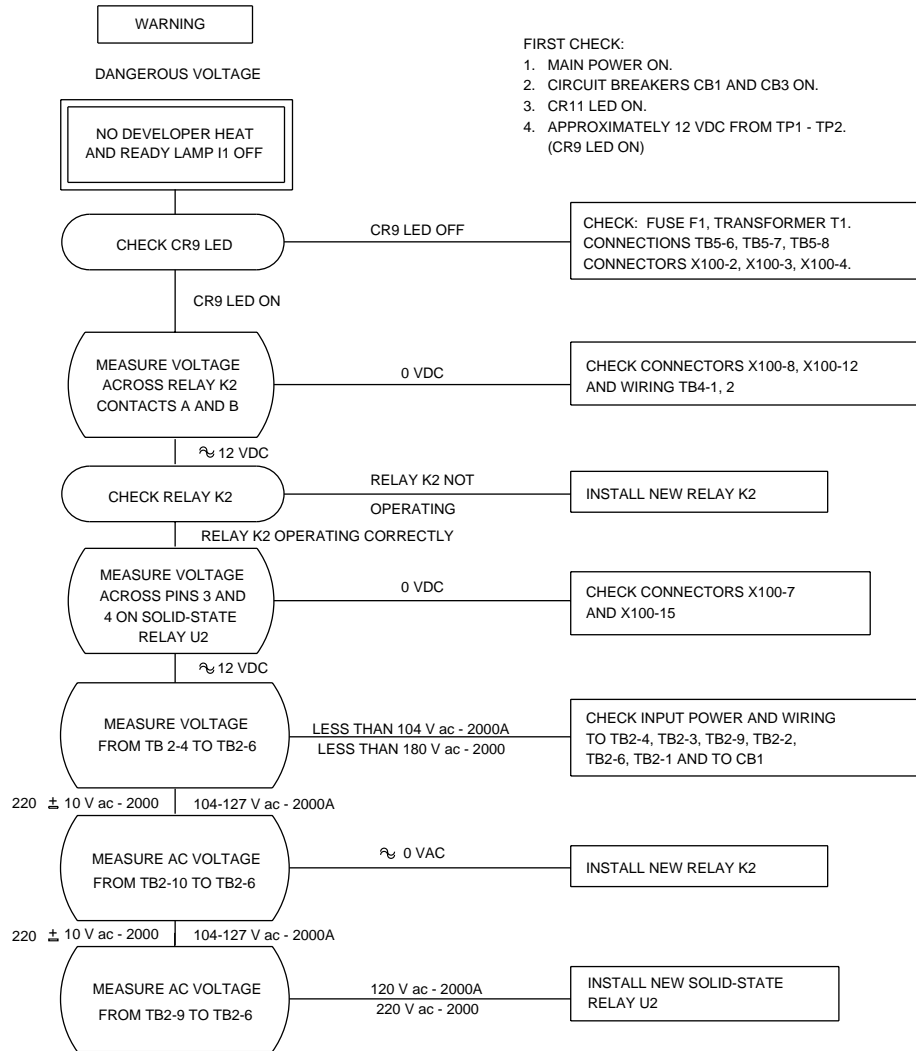
# Malfunction of the BLOWER MOTOR - 2000/2000A PROCESSORS



NOTE:  
ALL VOLTAGES ARE APPROXIMATE ONLY.  
DIAGNOSTIC FLOWCHART FOR THE DRYER  
TEMPERATURE CONTROL, AND MAIN DRIVE

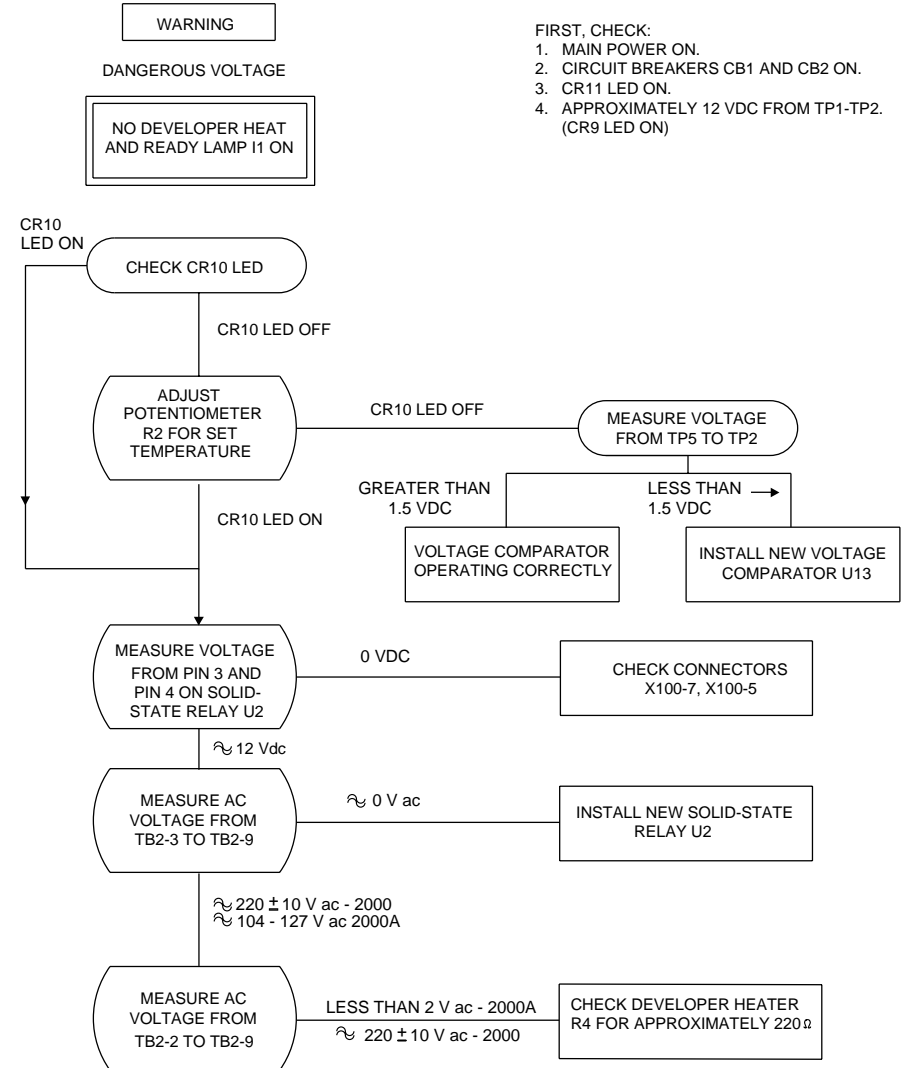
H172\_9000DC

# Malfunction of the Developer Temperature Control System and the TEMPERATURE READY LIGHT - 2000/2000A PROCESSORS



NOTE: ALL VOLTAGES ARE APPROXIMATE ONLY.  
DIAGNOSTIC FLOWCHART FOR THE DEVELOPER  
TEMPERATURE CONTROL.

H172\_9004EC



NOTE: ALL VOLTAGES ARE APPROXIMATE ONLY.

H172\_9003EC

DIAGRAMS

Publication History

Publication Date	Publication No.	ECO No.	Changed Pages	File Name	Notes
07JAN99	7C8773		All	7C8773.doc	New Publication
21NOV02	7C8773		All	7c8773.fm	Revised

*Kodak and X-Omat are trademarks.*